

REMARKS

FORMAL MATTERS:

Claims 28, 29, 33, and 56 to 92 are pending after entry of the amendments set forth herein.

Claims 28-29, 32-33, and 50-55 were examined. Claims 28-29, 32-33, and 50-55 were rejected.

No claims were allowed.

Claims 30-32 and 34-55 have been canceled.

Claims 28 and 33 have been amended. Support for these amendments is found in the claims as originally filed, as well as in the specification at, for example, Claim 28: Figure 4, Claims 32, page 16, paragraph 56, Table 1, pages 82, 107, and 108; and Claim 33: Table 1, pages 82, 107, and 108.

New Claims 56-92 have been added. Support for these new claims is found in the claims as originally filed, as well as in the specification at, for example:

Claim	Support
56	Original Claims 1-4.
57	Figure 4, Claims 32, page 16, paragraph 56, Table 1, page 107.
58	Original Claim 5.
59	Figure 4, Table 1, page 107.
60	Original Claims 1-4.
61	Figure 4, Claims 32, page 16, paragraph 56, Table 1, page 92.
62	Original Claim 5.
63	Figure 4, Table 1, page 92.
64	Original Claims 1-4.
65	Figure 4, Claims 32, page 16, paragraph 56, Table 1, pages 87 and 88.
66	Original Claim 5.
67	Figure 4, Table 1, pages 87 and 88.
68	Original Claims 1-4.
69	Figure 4, Claims 32, page 16, paragraph 56, Table 1, page 99.
70	Original Claim 5.
71	Figure 4, Table 1, page 99.
72	Original Claims 1-4.
73	Figure 4, Claims 32, page 16, paragraph 56, Table 1, page 124.
74	Original Claim 5.
75	Figure 4, Table 1, page 124.
76	Original Claims 1-4.
77	Figure 4, Claims 32, page 16, paragraph 56, Table 1, pages 98 and 99.
78	Original Claim 5.
79	Figure 4, Table 1, pages 98 and 99.
80	Original Claims 1-4.
81	Figure 4, Claims 32, page 16, paragraph 56, Table 1, page 57.
82	Original Claim 5.

Claim	Support
83	Figure 4, Table 1, page 57.
84	Original Claims 1-4.
85	Figure 4, Claims 32, page 16, paragraph 56, Table 1, page 96.
86	Original Claim 5.
87	Figure 4, Table 1, page 96.
88	Original Claims 1-4.
89	Figure 4, Claims 32, page 16, paragraph 56, Table 1, page 106.
90	Original Claim 5.
91	Figure 4, Table 1, page 106.
92	Original Claims 1-4.

Applicants respectfully request reconsideration of the application in view of the amendments and remarks made herein.

No new matter has been added.

INTERVIEW SUMMARY

Applicants are grateful to Examiner Fredman and Examiner Sakelaris for their time and effort in preparation for an in-person interview with the undersigned, and their time and assistance during the interview on October 19, 2004. All outstanding rejections of the claims were discussed. Amendments and arguments proposed by counsel to avoid the rejections under §112, ¶1 were also discussed.

The Examiners and the counsel agreed upon language to avoid all rejections of the claims, which language is presented in the claim amendments submitted herein. In addition, Examiners and the counsel agreed to adding claims directed to methods involving haplotype groups II-IX, and reciting novel markers. The Examiners agreed that if an RCE were filed, these claims would be examined in a single application. Accordingly, new Claims 57 to 92 have been.

REJECTIONS UNDER §112, ¶2: INDEFINITENESS

Claims 28-29, 32-33 and 50-55 have been rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. In view of the amendments to the claims and the remarks made herein, this rejection is respectfully traversed.

The Office Action states that the claims 28-29, 32-33, and 50-55 are “unclear because the specification does not define what is specifically encompassed by haplotype Group II markers M249, M247, and M150” (Office Action, page 2). In maintaining the rejection the Office Action states the following:

Applicant’s invention remains unclear because the characteristics and composition of “haplotype Group II” is not definite. In table 2, “haplotype Group II” is shown to include only M60, while in Table 3, “haplotype Group II” is shown to be represented in populations from Sudan, Ethiopia, and Sardinia without listing any corresponding markers, and even further in Table 4, “haplotype Group II” is shown to be represented by M181, M249, M42, M94, M251, and M299. No where in the specification is applicant’s invention of “haplotype Group II” comprised by M249, M247 and M150 disclosed. Regardless of a restriction requirement, applicant should have elected those SNPs that comprise their elected haplotype group, “haplotype Group II”. The disclosure is unclear as to what markers comprise “haplotype Group II”.

Applicants respectfully disagree. The selected polymorphic markers are exemplary of haplotype Group II **as demonstrated in Figure 4**, which figure was discussed during the in-person interview. As previously noted, the selection of polymorphic markers M249, M247, and M150 is by and large a product of the restriction requirement imposed by the Patent Office. M249, M247, and M150 are further described in Table 1 of the specification on pages 43-130. Specifically, M249 is described on page 108, M247 is described on page M247, and M150 is described on page 82.

Figure 4 shows the different haplotype Groups of the invention and the markers that are specifically associated with each haplotype Group. For example, Figure 4 shows that haplotype Group II includes markers M249, M247 and M150, as well as the other markers noted in the Office Action. Accordingly, Figure 4 specifically shows what is encompassed by haplotype Group II, as well as haplotype Group I and III to X.

However, in the spirit of expediting prosecution and without conceding to the correctness of the rejection, claim 28 has been amended to recite “wherein the plurality of polymorphisms **includes at least one of M150 (SEQ ID NO: 449), M247 (SEQ ID NO: 729), and M249 (SEQ ID NO: 735)**”. Examiners Fredman and Sakalaris agreed during the in-person interview that this amendment would

avoid this aspect of the rejection under §112, ¶2. Support for the amendments can be found in the claims as originally filed and throughout the specification, at for example: Figure 4, Claims 32, page 16, paragraph 56, Table 1, pages 82, 107, and 108.

Therefore, the Applicants submit that the rejection of claims 28-29, 32-33 and 50-55 under 35 U.S.C. §112, second paragraph, has been adequately addressed in view of the amendments to the claims and the remarks set forth above. The Examiner is thus respectfully requested to withdraw the rejection.

REJECTIONS UNDER §112, ¶1: WRITTEN DESCRIPTION

Claims 28-29, 32-33 and 50-55 have been rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. In view of the amendments to the claims and the remarks made herein, this rejection is respectfully traversed.

In particular, the Office Action on page 7 states the following:

The disclosure is still lacking written description concerning the “haplotype Group II” distinctions and the lack of a contextual sequence in the claims. As stated above, it is unclear what M249 structure, M247 structure, and M150 structure exists and further why their structures place each of these markers in “haplotype Group II”. Furthermore, the specification is void of any teaching of these three markers belonging to “haplotype Group II”, and any structural explanation as to why the three markers are exemplary for the “haplotype Group II”. In table 2, “haplotype Group II” is shown to include only M60, while in Table 3, “haplotype Group II” is shown to be represented in populations from Sudan, Ethiopia, and Sardinia without listing any corresponding markers, and even further in Table 4, “haplotype Group II” is shown to be represented by M181, M249, M42, M94, M251, and M299. Nowhere in the specification is applicant’s invention of “haplotype Group II” comprised by M249, M247 and M150 disclosed.

As noted above the selected polymorphic markers are exemplary of haplotype Group II **as demonstrated in Figure 4**. Figure 4 shows the different haplotype Groups of the invention and the

markers that are specifically associated with each haplotype Group. For example, Figure 4 shows that haplotype Group II includes markers M249, M247 and M150, as well as the other markers noted in the Office Action. Accordingly, Figure 4 specifically shows what is encompassed by haplotype Group II, as well as haplotype Group I and III to X.

Moreover, as noted above claim 28 has been amended to recite “wherein the plurality of polymorphisms **includes at least one of M150 (SEQ ID NO: 449), M247 (SEQ ID NO: 729), and M249 (SEQ ID NO: 735)**”. Examiners Fredman and Sakalaris agreed during the in-person interview that this amendment would avoid this aspect of the rejection under §112, ¶2. Support for the amendments can be found in the claims as originally filed and throughout the specification, at for example: Figure 4, Claims 32, page 16, paragraph 56, Table 1, pages 82, 107, and 108.

REJECTIONS UNDER §112, ¶1: WRITTEN DESCRIPTION

Claims 53 and 55 have been rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. Claims 53 and 55 have been canceled rendering this rejection moot.

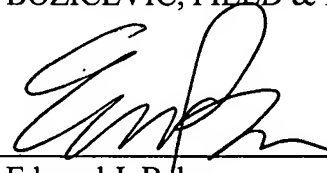
CONCLUSION

Applicant submits that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, please telephone the undersigned at the number provided.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extensions of time, or credit any overpayment to Deposit Account No. 50-0815, order number STAN-212.

Respectfully submitted,
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Date: NOV. 5, 2004

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